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**Laboratory Evaluations
of Candidate Insecticide Residues
Against Face Flies and DDT-Resistant House Flies,
1961-1969**

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Laboratory Evaluations of Candidate Insecticide Residues Against Face Flies and DDT-Resistant House Flies, 1961-1969

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In 1960 the face fly (*Musca autumnalis* De Geer) became a serious pest of cattle and horses in central Maryland for the first time. Research undertaken that year on this insect at the Agricultural Research Center, Beltsville, Md., consisted of laboratory rearing studies and field tests with insecticides and repellents (3, 4).¹

The following year laboratory evaluations of insecticide residues against this insect were begun. The same candidate materials were also tested against DDT-resistant house flies (*Musca domestica* L.).

TEST PROCEDURES

The method used to test face and house flies was a modification of the residue jar method described for use with cockroaches (5) and later for house flies (1). This is the same method used for residual tests on face flies (2).

The insecticides were made up in acetone solutions at a concentration of 0.56 mg. per milliliter. The solutions were applied to the entire neck of a pint Mason jar with a pipette and allowed to run down into the jar. As the jar was gently rotated by hand the acetone evaporated and all interior surfaces were evenly coated.

In early tests 5 ml. of the solution were used in the jars resulting in a residue of 10 mg. per 929 cm.² In later tests the beginning dosage was 5 mg. per 929 cm.², which was obtained by using 2.5 ml. of the 0.56-mg. stock solution. Since it was impossible to coat the surface of the jar evenly with less than 2.5 ml., lower dosages were obtained by diluting the stock solutions to obtain the desired dosage when using either 5 or 2.5 ml. of the solution.

A cover of 94-cm.² double-weight window glass was treated on one side at the same dosage as the jar. This was obtained by using the same dilution and treating the cover with 1.75 ml. when 5 ml. were used in the jar and 0.875 ml. when 2½ ml. were used.

Insofar as possible the insects were 3 to 5 days old on a given day of testing. One or two hours after the acetone was evaporated, 20 or more adult flies were selected at random through the opening in the rubber back of a stock cage by means of a shell vial. They were then transferred to a treated jar by first covering it with a piece of cardboard containing an opening of the same diameter as the vial used to catch the flies. The open end of the vial was inserted through the hole in the cardboard and the flies were shaken into the jar. As the cardboard was removed the window-glass cover was quickly slipped over the jar with the treated side covering the mouth.

The jar was inverted on a table for 5 minutes, during which the insects were in continual contact with the treated surface except for occasional flight. Inversion of the jar was necessary since the face flies particularly tended to congregate on the jar lip, which had been difficult to treat. At the end of the exposure period the insects were placed in a 10-inch cubical screen holding cage.

All insects were fed with cotton soaked in a skim milk and water solution (1:1). They were held overnight for mortality counts. Both dead and living insects were sexed, and the percent mortality was recorded for males, females, and the total population. No attempt was made to determine whether some insects may have been killed by fumigation.

When tests were replicated, freshly treated jars and different populations of insects were used. Be-

¹ Italic numbers in parentheses refer to Literature Cited, p. 3.

cause of limited equipment, space, and time, all materials could not be tested on the same day. DDT and malathion were included at each level as a standard against face flies and resistant house flies, respectively. Only the more promising materials were tested at lower dosages.

RESULTS

In table 1, 281 materials are evaluated as insecticide residues against face flies and DDT-resistant house flies. Approximately one-third of the materials tested were equal to or better than their respective standards when compared at the dosage level most closely approximating the LD₅₀—1.25 mg. of DDT against face flies and 5 mg. of malathion against resistant house flies.

The most effective materials against the face fly, based on 100-percent kill with a residue of 0.312 mg. per 929 cm.² or less, were as follows:

<i>Residue (mg.)</i>	<i>Item No.</i>
0.039 -----	84, 121 (isobenzan)
0.156 -----	75 (crotoxyphos), 159, 160, 165, 245 (phoxim)
0.312 -----	2, 107 (Bomyl®), 163, 164, 166, 180, 181, 217, 218, 224 (bromophos), 229, 231, 233, 247 (Dursban®), 255, 271, 272

The most effective materials against DDT-resistant house flies, based on 100-percent kill with a residue of 0.312 mg. per 929 cm.², were items 75 (crotoxyphos), 83, 84, 166, and 272.

The most effective materials against both species were items 75 (crotoxyphos) and 84.

LITERATURE CITED

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This publication reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended.

CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.



Mention of a proprietary product in this publication does not constitute a guarantee or warranty by the U.S. Department of Agriculture over other products not mentioned.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level

Item No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill						
			Face fly		House fly		Total insects	Male Percent	
			Male	Female	Male	Female			
CANDIDATE MATERIALS									
1	27509	Acetic acid, mercapto-, 2,2-dimethylhydrazide, 0-ethyl ethylphosphonodithioate (ester)	5.0	62	38	47	55	27	43
2	27386	Acetic acid, mercaptophenyl-, ethyl ester, S-ester with 0,0-dimethyl phosphorodithioate	5.0 2.5 1.25 .625 .312 .156 .078	100 100 100 100 100 36 11	100 100 100 93 100 8 5	100 100 100 96 100 19 8	89 74 64 52 72 6 0	68 54 43 10 52 0 0	79 64 50 35 63 4 0
3	27411	Acetimidic acid, N-(carbamoyloxy)thio-, methyl ester	5.0 2.5	95 27	18 8	54 15	50 17	50 12	50 15
4	27553	Acetimidic acid, N-[(methylcarbamoyl)oxy]-, ethyl ester	10.0 5.0 2.5 1.25 .625 1/ .312 .156	100 100 100 100 100 63 40	100 100 100 100 90 40 50	100 100 100 100 96 50 75	100 100 100 100 100 20 20	100 100 92 100 73 50 50	100 100 94 100 85 50 19
5	28464	Acetoacetamide, N-piperonyl-	5.0	0	0	0	0	0	0
6	27029	Acetophenone, 4'-nitro-, 0-(phosphonothio)oxime, diethyl ester	5.0	28	48	37	0	0	0
7	16275	<u>trans</u> -(+)-Allethrin	5.0 2.5 1.25 .625 .312	100 100 50 45 47	100 100 55 58 43	100 100 53 51 45	100 100 85 20 9	91 48 28 0 0	97 75 47 10 3
8	27377	Benzaldehyde, 2,4-dichloro-, 0-2-propynloxime	5.0	4	3	3	0	0	0
9	27140	3-Biphenylcarboxanilide, 2",4',5,5"-tetrachloro-2-hydroxy-	5.0	9	0	4	0	0	0
10	27137	3-Biphenylcarboxanilide, 2",4",5,5"-tetrachloro-2-hydroxy-	5.0	0	0	0	0	0	0
11	27135	3-Biphenylcarboxanilide, 2",5,5"-trichloro-2-hydroxy-	5.0	0	0	0	0	0	0
12	27136	3-Biphenylcarboxanilide, 3",4",5-trichloro-2-hydroxy-	5.0	0	0	0	0	0	0
13	27139	3-Biphenylcarboxanilide, 4',4",5-trichloro-2-hydroxy-	5.0	0	3	2	0	0	0
14	27514	1,4-Butanediol, cyclic sulfite	5.0	0	0	0	0	0	0
15	9735	Camphene, chlorinated to contain 67-69 percent chlorine	2/10.0 1/ 5.0	70 20	65 7	69 13	73 24	60 10	65 18
16	27046	Carbamic acid, 2-[(mercapto-methyl)thio]ethyl ester, S-ester with 0-isopropyl 0-methyl phosphorodithioate	5.0 2.5	82 33	46 28	71 27	0 23	0 0	0 10
17	27264	Carbamic acid, acetyl methyl-, m-tert-butylphenyl ester	5.0	0	0	0	7	0	4
18	27262	Carbamic acid, acetyl methyl-, 6-chloro-3,4-xylyl ester	5.0	0	0	0	4	0	2

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Entomology Item No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill						
			Face fly			House fly			
			Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	
19	27468	Carbamic acid, acetyl methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	10.0 5.0 2.5 1.25 .625	100 90 100 67 65	95 88 85 92 36	97 89 89 80 48	100 86 75 88 21	81 21 14 11 0	89 43 28 44 14
20	27263	Carbamic acid, acetyl methyl-, 4-(dimethylamino)-3,5-xylyl ester	5.0	65	33	47	22	0	12
21	27457	Carbamic acid, (chloroacetyl)-methyl-, <u>m</u> -tert-butylphenyl ester	5.0	0	5	3	17	8	13
22	27334	Carbamic acid, (chloroacetyl)-methyl-, <u>m</u> -cumenyl ester	5.0	45	17	30	37	10	29
23	27456	Carbamic acid, (chloroacetyl)-methyl-, <u>m</u> -tolyl ester	5.0	0	0	0	0	6	5
24	33264	Carbamic acid, dibutyl-, <u>p</u> -bromophenyl ester	5.0	11	0	3	5	3	4
25	33176	Carbamic acid, di-sec-butyl-thio-, <u>S</u> -phenyl ester	5.0	0	0	0	6	0	4
26	27459	Carbamic acid, (dichloroacetyl)methyl-, <u>m</u> -tert-butylphenyl ester	5.0	0	0	0	0	11	7
27	27455	Carbamic acid, (dichloroacetyl)methyl-, <u>m</u> -cumenyl ester	5.0 2.5	0 7	0 0	0 4	75 7	56 0	61 2
28	27376	Carbamic acid, dimethyl-, benzo[b]thien-4-yl ester	5.0 2.5	100 40	100 59	100 26	49 5	77 7	12 4
29	25922	Carbamic acid, dimethyl-, ester with 3-hydroxy-N,N,5-trimethylpyrazole-1-carboxamide (dimetilan)	5.0 2.5 1.25 .625 .312	100 100 85 95 42	100 98 58 56 22	100 99 68 73 37	100 47 60 28 4	89 7 10 2 0	94 18 30 18 2
30	33158	Carbamic acid, dimethylthio-, <u>S</u> -(<u>p</u> -bromophenyl) ester	5.0	0	0	0	0	0	0
31	33223	Carbamic acid, ethyldithio-, phenyl ester	5.0	0	0	0	3	4	0
32	27460	Carbamic acid, (mercaptoacetyl)-methyl-, <u>o</u> -tolyl ester, <u>S</u> -ester with <u>o,o</u> -dimethyl phosphorodithioate	5.0 2.5	0 4	0 0	0 2	83 48	28 0	50 24
33	25801	Carbamic acid, (2-mercaptopethyl)-, ethyl ester, <u>S</u> -ester with <u>o,o</u> -dimethyl phosphorodithioate	5.0 2.5	41 27	63 54	17 9	82 30	98 63	65 4
34	27362	Carbamic acid, methyl-, 1,4-benzodioxan-5-yl ester	5.0	23	28	19	3	4	2
35	27041	Carbamic acid, methyl-, benzo[b]thien-4-yl ester (Mobam(R))	3/ 5.0	39	38	37	34	31	33
36	27128	Carbamic acid, methyl-, 5-sec-butyl-2-chlorophenyl ester	5.0	24	27	26	0	3	2
37	25911	Carbamic acid, methyl-, 5-tert-butyl-2-chlorophenyl ester	5.0	6	0	3	6	0	3
38	27212	Carbamic acid, methyl-, <u>o</u> -sec-butylphenyl ester	5.0	41	17	30	8	3	5
39	27382	Carbamic acid, methyl-, 4-chloro-2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	5.0	13	14	11	11	14	3

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology No.	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly		Total insects		House fly		Total insects	
				Male Percent	Female Percent	Male Percent	Female Percent	Male Percent	Female Percent	Male Percent	Female Percent
40	27649	Carbamic acid, methyl-, 2-chloro- <u>m</u> -tolyl ester	5.0	23	2	10	6	3	4		
41	25543	Carbamic acid, methyl-, <u>m</u> -cumenyl ester	3/10.0 <u>1</u> / 5.0 <u>1</u> / 2.5	100 98 72	98 88 68	99 93 70	47 0 4	18 0 0	32 0 2		
42	27300	Carbamic acid, methyl-, <u>m</u> -cym-5-yl ester	5.0 2.5	71 14	69 28	69 21	31 38	5 2	22 23		
43	27109	Carbamic acid, methyl-, 4-(diallylamino)-3,5-xylyl ester	5.0	5	20	11	0	5	3		
44	27164	Carbamic acid, methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester (carbofuran)	5.0 2.5 1.25	81 84 32	94 100 22	88 91 26	83 12 2	18 0 0	44 4 1		
45	27324	Carbamic acid, methyl-, 2,3-dihydro-2-methyl-7-benzofuranyl ester	5.0 2.5	71 14	47 17	56 15	84 31	20 0	61 17		
46	27383	Carbamic acid, methyl-, 2,3-dihydro-2,2,4-trimethyl-7-benzofuranyl ester	5.0 2.5 1.25 .625	89 76 66 0	91 81 70 0	86 73 60 0	53 12 16 0	83 20 27 0	8 0 6 0		
47	25780	Carbamic acid, methyl-, 3,5-diisopropylphenyl ester	5.0 2.5 1.25	80 100 12	65 100 0	72 100 6	17 79 11	6 58 0	12 70 7		
48	27305	Carbamic acid, methyl-, 4-[(dimethylamino)methylene]amino- <u>m</u> -tolyl ester	5.0	18	26	23	59	30	41		
49	27466	Carbamic acid, methyl-, <u>o</u> -(dimethylamino)phenyl ester	10.0 5.0	79 6	50 0	62 3	67 82	14 15	47 39		
50	27108	Carbamic acid, methyl-, 3-(dimethylamino)- <u>p</u> -tolyl ester	5.0	12	6	9	0	0	0		
51	27385	Carbamic acid, methyl-, 2,2-dimethyl-8-chromanyl ester	5.0	25	19	30	4	3	5		
52	27410	Carbamic acid, methyl-, <u>o</u> -(4,5-dimethyl-1,3-dioxolan-2-yl)phenyl ester	5.0 2.5	97 39	89 28	93 32	97 45	91 6	94 28		
53	27524	Carbamic acid, methyl-, 1,1-dimethyl-4-indanyl ester	5.0	0	0	0	0	0	0		
54	27480	Carbamic acid, methyl-, ester with 4'-hydroxyacetanilide	5.0	13	10	12	8	3	5		
55	27369	Carbamic acid, methyl-, ester with <u>p</u> -hydroxyhydrocinnamone-nitrile	5.0	6	5	7	0	0	0		
56	27397	Carbamic acid, methyl-, ester with (<u>p</u> -hydroxyphenyl)aceto-nitrile	5.0	0	4	3	0	0	0		
57	27481	Carbamic acid, methyl-, ester with 3'-hydroxypropionanilide	5.0	54	36	44	51	35	46		
58	25671	Carbamic acid, methyl-, <u>o</u> -isopropoxyphenyl ester (propoxur)	5.0 2.5	57 10	83 3	73 6	30 0	0	19 0		
59	27695	Carbamic acid, methyl-, 2,3-(isopropylidenedioxy)phenyl ester	5.0 2.5 1.25 .625	87 100 83 70	59 80 50 23	67 84 62 39	67 48 17 75	18 0 17 15	49 16 17 27		

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill						
			Face fly			House fly			
			Total Male Percent	Total Female Percent	Total Male Percent	Total Female Percent	Total Male Percent	Total Female Percent	
60	27047	Carbamic acid, methyl-, 2-[<i>(mercaptopethyl)thio]ethyl ester, S-ester with O-isopropyl O-methyl phosphorodithioate</i>	5.0	0	0	0	4	0	3
61	27384	Carbamic acid, methyl-, 7-methylbenzo[b]thien-4-yl ester	5.0	0	0	0	7	3	12
62	27127	Carbamic acid, methyl-, <u>m</u> -(1-methylbutyl)phenyl ester (Chevron RE-5353)	5.0	0	6	3	0	12	8
63	27564	Carbamic acid, methyl-, <u>o</u> -(4-methyl-1,3-dioxolan-2-yl)-phenyl ester	5.0	41	6	15	35	0	22
64	27407	Carbamic acid, methyl-, 2-methyl-8-quinolyl ester	5.0	0	0	0	3	0	2
65	27557	Carbamic acid, methyl-, 2-methyl-8-quinolyl ester, sulfate (1:1)	5.0	7	0	3	71	9	48
66	23969	Carbamic acid, methyl-, 1-naphthyl ester (Carbaryl)	5.0	0	0	0	5	0	3
67	27479	Carbamic acid, methyl-, 8-quinolyl ester	10.0	12	5	9	0	0	0
68	27253	Carbamic acid, methyl-, 5,6,-7,8-tetrahydro-1-naphthyl ester	5.0	0	0	0	0	0	0
69	27347	Carbamic acid, methylnitroso-, <u>m</u> -cumenyl ester	5.0	0	0	0	5	4	5
70	27458	Carbamic acid, methyl(trichloroacetyl)-, <u>m</u> -tert-butylphenyl ester	5.0	0	0	0	7	6	6
71	27454	Carbamic acid, methyl(trichloroacetyl)-, <u>m</u> -cumenyl ester	5.0	0	0	0	54	21	30
72	27573	Carbamic acid, thio-, <u>S,S'</u> -2'-(dimethylamino)trimethylene ester, hydrochloride	10.0	0	0	0	1	0	1
73	33221	Carbanilic acid, <u>m</u> -chlorophenyl ester	5.0	0	0	0	5	6	4
74	31544	Carbanilic acid, <u>o</u> -methyl-dithio-, methyl ester	5.0	0	0	0	0	4	3
75	24717	Crotonic acid, 3-hydroxy-, α -methylbenzyl ester, dimethyl phosphate, (<i>E</i>)-(crotoxyphos)	10.0 5.0 2.5 1.25 .625 .312 .156 .078 .039	100 100 100 100 100 100 100 89 22	100 100 100 100 100 100 100 81 0	100 100 100 100 100 100 100 84 18	100 100 100 100 100 100 100 40 0	100 100 100 100 100 100 100 0 0	
76	27517	1,2-Cyclohexanediol, cyclic sulfite, <i>trans</i> -	5.0	0	0	0	0	0	0
77	27540	1,2-Cyclohexanediol, 1,2-dimethyl-, cyclic sulfite	10.0	0	21	8	2	0	1
78	27304	Cyclohexanone, 2-methyl-2-nitro-, <u>O</u> -(methylcarbamoyl)-oxime	5.0	0	8	3	4	0	2

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill								
				Face fly				House fly				
				Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	
79	27462	1-Cyclopentene-1-carboxylic acid, 2-hydroxy-, methyl ester, dimethyl phosphate	5.0 2.5	38 0	0 0	20 0	69 18	52 0	57 8			
80	27085	Cyclopropane, 1,1-dichloro-2,2-bis(<i>p</i> -chlorophenyl)-	5.0	56	32	44	84	4	53			
81	27233	Cyclopropanecarboxylic acid, methyl ester	5.0	0	0	0	0	0	0			
82	27561	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, <i>p</i> -allylbenzyl ester	5.0 2.5 1.25 .625	96 71 0 14	100 50 0 0	98 63 0 5	100 100 100 21	100 100 100 0	100 100 100 14			
83	27474	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, (5-benzyl-3-furyl)methyl ester	5.0 2.5 1.25 .625 .312 .156 .078 .039	100 100 100 21 76 7 0 0	100 100 97 4 35 0 4 4	100 100 98 11 60 4 3 3	100 100 100 100 100 95 88 0	100 100 100 100 100 85 88 0	100 100 100 100 100 91 93 0			
84	27662	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, (5-benzyl-3-furyl)methyl ester, (+)- <i>trans</i> -	5.0 2.5 1.25 .625 .312 .156 .078 .039 .020 .010	100 100 100 98 88 100 95 100 96 0	100 100 100 93 93 100 92 100 88 0	100 100 100 96 90 100 94 100 91 0	100 100 100 100 100 96 92 35 0 0	100 100 100 100 100 97 74 20 0 0	100 100 100 100 100 97 82 33 0 0	100 100 100 100 100 97 82 33 0 0		
85	21195	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 6-bromopiperonyl ester	1/10.0 2/ 5.0 2/ 2.5 2/ 1.25	96 100 100 34	95 100 98 12	96 100 98 24	98 44 56 2	96 12 20 3	96 31 45 2	97 31 45 2		
86	21557	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 6-chloropiperonyl ester (barthrin)	1/10.0 1/ 5.0 1/ 2.5 1/ 1.25 1/ .625	100 100 100 96 6	100 100 100 87 0	100 100 100 93 4	100 100 82 12 0	100 90 40 5 0	100 94 70 8 0	100 94 70 8 0		
87	21170	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 2,4-dimethylbenzyl ester (dimethrin)	1/10.0 2/ 5.0 2/ 2.5 2/ 1.25	100 100 96 4	98 100 83 0	99 100 89 2	98 40 19 0	92 12 6 0	97 28 12 0	97 28 12 0		
88	27339	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with N-(hydroxymethyl)-1-cyclohexene-1,2-dicarboximide (tetramethrin)	5.0 2.5 1.25 .625	100 97 95 30	96 95 87 29	98 96 91 30	84 16 14 0	54 10 4 0	72 14 9 0	72 14 9 0		
89	21559	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, <i>o</i> -methylbenzyl ester	1/10.0 1/ 5.0	96 92	98 44	96 73	57 4	50 0	50 2	50 2		
90	27199	Decanoic acid, 2-bromo-, 2-propynyl ester	5.0	0	0	0	0	0	0	0		
91	27532	Decylamine, <i>N,N</i> -diethyl-	5.0	8	0	4	0	0	0	0		
92	27531	Decylamine, <i>N,N</i> -dimethyl	5.0	0	0	0	0	0	0	0		
93	27530	Decylamine, <i>N</i> -methyl-	5.0	0	0	0	0	0	0	0		
94	17251	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, <i>endo</i> - <i>endo</i> -(endrin)	2/10.0 1/ 5.0 1/ 2.5 1/ 1.25	98 100 100 60	97 84 56	98 94 58	95 76 76 53	87 73 34 28	93 74 52 44			

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill					
			Face fly		House fly			
			Male Percent	Female Percent	Total insects	Total Percent	Male Percent	Female Percent
95	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, <u>endo-exo</u> - (dieldrin)	2/ 10.0	100	100	100	83	48	66
		1/ 5.0	100	100	100	55	44	50
		1/ 2.5	100	100	100	44	56	55
		1/ 1.25	100	100	100	68	62	70
		1/ .625	91	92	92	54	58	54
		1/ .312	90	86	88	22	26	23
96	Disulfide, diethoxyphosphinyl 1-ethoxy- <u>N</u> -phenylformimidoyl	.156	77	36	68	13	27	20
		5.0	100	100	100	76	17	45
		2.5	89	93	92	90	24	56
97	Disulfide, diethoxyphosphinyl 1-ethoxy- <u>N</u> -propylformimidoyl	1.25	56	45	52	12	0	5
		5.0	76	67	70	89	20	47
		2.5	100	100	100	76	23	43
98	Disulfide, diethoxyphosphinyl 1-isopropoxy- <u>N</u> -phenylformimidoyl	1.25	2	0	1	0	0	0
		5.0	94	99	97	57	3	27
		2.5	56	65	60	62	0	29
99	Disulfide, diethoxyphosphinyl 1-methoxy- <u>N</u> -phenylformimidoyl	2.5	0	0	0	0	0	0
		5.0	43	52	47	0	0	0
100	27696	1,3-Dithiolane-2-carbox-aldehyde, 2,4-dimethyl-, <u>O</u> -(methylcarbamoyl)oxime	5.0	44	27	32	2	3
101	27660	1,3-Dithiolane-2-carbox-aldehyde, 2-methyl-, <u>O</u> -(methylcarbamoyl)oxime	5.0	28	32	30	0	0
102	26661-X	Dodecanamide, <u>N,N</u> -dimethyl- (95 percent), mixture with related amides (5 percent)	5.0	0	0	0	0	0
103	Ethane, 1,1-dichloro-2,2-bis(<u>p</u> -ethylphenyl)- (Perthane(R))	1/10.0	99	99	99	88	75	80
		2/ 5.0	95	86	90	28	19	22
		2/ 2.5	64	40	55	12	4	8
104	Ethane, 1,1,1-trichloro-2,2-bis(<u>p</u> -methoxyphenyl)- (methoxychlor)	2/10.0	80	70	75	70	42	56
		1/ 5.0	84	74	75	0	0	0
		1/ 2.5	2	0	1	0	4	1
105	25456	Ether, bis(2,3,3,3-tetrachloropropyl)	2/10.0	61	64	64	81	49
106	27359-X	Fatty oil, mixture with hexadecanol, sodium chloride, acetic acid and benzene	5.0	0	0	0	0	0
107	Glutaconic acid, 3-hydroxy-, dimethyl ester, dimethyl phosphate (Bomyl(R))	5.0	100	100	100	100	100	100
		2.5	100	100	100	100	100	100
		1.25	100	100	100	80	18	48
		.625	40	62	54	0	0	0
		.312	100	100	100	0	9	6
		.156	4	0	3	0	0	0
108	24703	Imidazole	10.0	0	2	1	0	0
109	44607-X	Iron, tricarbonyl(octadecadienoic acid)-, methyl ester	5.0	21	3	8	2	0
110	3484	Lauric acid, 2-chloroethyl ester	5.0	0	0	0	0	0
111	44652	<u>Melia azadirachta</u> L. alcohol extract of fruit	5.0	0	0	0	4	0
112	44653	<u>Melia azadirachta</u> L. ether soluble portion of 44652	5.0	4	0	2	3	3
113	44654	<u>Melia azadirachta</u> L. solid from 44653	5.0	5	0	2	37	4
114	27538	p-Menthane-2-one	5.0	5	0	3	0	0

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Entomology Item No. No.	Material	Residue Mg. per 929 cm. ²	24-hour kill					
			Face fly		House fly			
			Male Percent	Female Percent	Total Insects	Total Percent	Male Percent	Female Percent
115	27539	p-Menth-8-ene-1,2-diol, cyclic sulfite	5.0	0	0	0	0	0
116	27537	p-Menth-3-en-2-one	5.0	0	0	0	0	0
117	27005	4,7-Methanoindan, 1,2,3,- 4,5,6,7,8,8-nonachloro- 3a,4,7,7a-tetrahydro-	5.0	9	0	4	40	0
118	25960	4,7-Methanoindene, 1-bromo- 4,5,6,7,8,8-hexachloro- 3a,4,7,7a-tetrahydro-	5.0 2.5 1.25 .625	100 100 100 44	100 100 100 0	100 100 100 26	93 94 88 (insects escaped)	74 74 25 0
119	15152	4,7-Methanoindene, 3a,4,5,- 6,7,8,8-heptachloro-3a,4,- 7,7a-tetrahydro- (heptachlor)	2/10.0 1/ 5.0 1/ 2.5 1/ 1.25 1/ .625 1/ .312	100 100 100 94 92 36	100 100 100 100 83 46	100 100 100 96 88 37	96 76 82 50 56 32	92 73 62 32 32 3
120	9932	4,7-Methanoindene, 1,2,4,5,- 6,7,8,8-octachloro-2,3,3a,4,- 7,7a-hexahydro- (chlordan)	2/10.0 1/ 5.0 1/ 2.5 1/ 1.25 1/ .625 1/ .312	98 100 100 95 74 0	100 89 100 95 46 12	98 96 100 95 65 3	76 56 55 55 32 0	65 55 40 62 20 0
121	25545	4,7-Methanoisobenzofuran, 1,3,4,5,6,7,8,8-octachloro- 1,3,3a,4,7,7a-hexahydro- (isobenzan)	5.0 2.5 1/1.25 .625 .312 .156 .078 .039 .020	100 100 100 100 100 100 100 100 0	100 100 100 100 95 95 97 99 0	100 100 100 100 97 98 84 71 0	100 100 100 92 84 80 90 71 0	100 100 82 94 38 83 85 23 0
122	27515	4,7-Methanoisobenzofuran- 1(3H)-one, 3a,4,7,7a- tetrahydro-3,3-dimethyl-	5.0	0	0	0	0	0
123	27017-X	1,4-Methanonaphthalene, 1,2,3,4,9,9-hexachloro- 1,4,4a,5,6,7,8,8a-octa- hydro-, chlorinated to contain approximately 72 percent chlorine	5.0	3	11	7	0	0
124	27154	1,3,4-Metheno-1H-cyclobuta-[cd]pentalene-2-levulinic acid, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-2-hydroxy-, ethyl ester	5.0	0	0	0	3	0
125	27198	Morpholine, 4-(2-bromodecanoyl)-	5.0	0	0	0	0	0
126	27196	Morpholine, 4-(2-decenoyl)-	5.0	0	0	0	0	0
127	27197	Morpholine, 4-(2-dodecenoyl)-	5.0	0	0	0	0	0
128	27195	Morpholine, 4-(2-nonenoyl)-	5.0	0	0	0	0	0
129	27194	Morpholine, 4-(2-octenoyl)-	5.0	0	0	0	0	0
130	27301	2-Norbornanone, 3-methyl-3-nitro-, 0-(methylcarbamoyl)-oxime	5.0	0	6	2	0	0

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill						
			Face fly			House fly			
			Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	
131	27053	2-Norbornene, 1,2,3,4,7,7-hexachloro-5,6-bis(chloromethyl)-	5.0	3	6	4	33	9	20
132	23447	2-Norbornene, 1,2,3,4,7,7-hexachloro-5-(dichloromethyl)-	1/10.0 2/ 5.0 2/ 2.5 2/ 1.25	99 100 100 94	100 100 100 65	99 100 100 78	64 40 40 10	57 54 26 10	60 47 32 10
133	26660-X	Octanamide, N,N-dimethyl- (50 percent), mixture with N,N-dimethyldecanamide (40 percent) and related amides (10 percent)	5.0	0	0	0	0	0	0
134	26663-X	Oleamide, N,N-dimethyl- (80 percent), mixture with related amides (20 percent)	5.0	0	0	0	0	0	0
135	27536	2,4-Pantanediol, cyclic sulfite, (+)-	5.0	0	0	0	0	0	0
136	27535	2,4-Pantanediol, cyclic sulfite, meso-	5.0	0	0	0	0	0	0
137	27400	2-Pentenoic acid, 2,3,5,5,5-pentachloro-4-oxo-, (Z)-	5.0	0	0	0	0	3	2
138	27401	2-Pentenoic acid, 2,3,5,5,5-pentachloro-4-oxo-, phenyl ester	5.0	0	0	0	0	0	0
139	27463	3-Penten-2-one, 4-methyl-, O-(methylcarbamoyl)oxime, (Z)-	5.0	0	3	2	33	24	26
140	27518	O-Phenylenediamine, N,N'-diethyl-	5.0	0	0	0	0	0	0
141	27011	Phosphonic acid, [(phenyldithio)methylidyne]tri-, hexaethyl ester	5.0 2.5 1.25	100 97 5	100 91 0	100 93 2	23 6 0	0 0 0	11 3 0
142	27251	Phosphonodithioic acid, ethyl-, S-(<i>p</i> -tert-butylphenyl) O-methyl ester	5.0 2.5 1.25	100 100 47	100 100 0	100 100 22	100 100 95	93 86 45	98 90 72
143	27632	Phosphonodithioic acid, ethyl-, S-(<i>p</i> -chlorophenyl) O-isobutyl ester	5.0 2.5 1.25 .625 .312	100 100 100 75 -	100 100 100 56 -	100 100 100 66 36	100 100 100 8 11	86 92 78 8 0	93 40 43 6 7
144	27045	Phosphonodithioic acid, ethyl-, S-(4-chloro-m-tolyl) O-ethyl ester	5.0 2.5 1.25	100 100 92	100 100 21	100 100 44	100 100 0	67 88 5	86 95 4
145	27309	Phosphonodithioic acid, ethyl-, S-(4-chloro-m-tolyl) O-methyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 95 35	100 100 100 100 93 42	100 100 100 100 97 28	100 100 74 35 6 4	100 91 100 55 10 2	100 62 52 31 2 9
146	27298	Phosphonodithioic acid, ethyl-, S-[(2,4-dichlorophenoxy)methyl] O-ethyl ester	5.0 2.5 1.25	100 87 0	100 74 4	100 80 2	100 96 36	100 74 0	100 83 17
147	27361	Phosphonodithioic acid, ethyl-, S-[(2,4-dichlorophenoxy)methyl] O-propyl ester	5.0 2.5 1.25	100 62 30	100 78 33	100 83 25	100 86 0	100 80 0	100 80 0

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill								
				Face fly				House fly				
				Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	
148	27013	Phosphonodithioic acid, ethyl-, 0-ethyl ester, S-ester with N-(2-mercaptoethyl)dimethane-sulfonamide	5.0	0	0	0	0	0	0	0	0	
149	27038	Phosphonodithioic acid, ethyl-, 0-ethyl ester, S-ester with 2-[(mercaptopmethvl)thio]-N-methylacetamide	5.0 2.5 1.25 .625	100 100 76 0	100 79 34 0	100 88 55 0	78 54 77 0	33 20 6 3	54 39 41 2			
150	27015	Phosphonodithioic acid, ethyl-, 0-isobutyl ester S-ester with N-(mercaptop-methyl)phthalimide	5.0 2.5 1.25 .625	100 100 100 50	100 100 93 50	100 100 96 50	100 71 13 0	100 57 4 0	100 63 8 0			
151	27014	Phosphonodithioic acid, ethyl-, 0-isopropyl ester, S-ester with N-(mercaptop-methyl)phthalimide	5.0 2.5 1.25 .625	100 100 100 39	100 100 100 10	100 100 100 27	92 100 87 36	71 58 24 0	83 77 65 11			
152	27249	Phosphonodithioic acid, ethyl-, 0-methyl S-phenyl ester	5.0 2.5 1.25	100 92 4	100 97 7	100 94 5	100 25 6	67 24 0	89 24 4			
153	27250	Phosphonodithioic acid, ethyl-, 0-methyl S-p-tolyl ester	5.0 2.5 1.25 .625 .312	100 100 100 95 9	100 100 100 92 0	100 100 100 93 4	100 100 82 52 0	100 92 52 68 0	100 95 0 0 0			
154	27661	Phosphonodithioic acid, (2-methoxyvinyl)-, S,S-diisopropyl ester	5.0 2.5 1.25	100 95 23	100 48 5	100 63 12	100 25 15	91 6 0	96 12 3			
155	27372	Phosphonodithioic acid, methyl-, 0-benzo[b]thien-4-yl S-propyl ester	5.0	4	0	10	2	5	0			
156	27406	Phosphonodithioic acid, methyl-, S-(4-chloro-m-tolyl) 0-ethyl ester	5.0 2.5 1.25	68 14 3	45 4 2	56 8 3	82 84 0	82 62 17	82 70 6			
157	27227	Phosphonothioic acid, (chloromethyl)-, 0-ethyl ester, 0-ester with 4-hydroxy-m-anisonitrile	5.0 2.5 1.25	95 62 20	61 18 4	75 39 11	10 43 0	0 0 0	3 8 0			
158	27028	Phosphonothioic acid, (chloromethyl)-, 0-ethyl ester, 0-ester with p-hydroxybenzonitrile	5.0 2.5 1.25 .625 .312	100 97 100 97 38	100 100 100 98 4	100 99 100 78 17	100 100 100 13 20	100 96 82 44 0	100 98 94 44 15			
159	27373	Phosphonothioic acid, ethyl-, 0-(4-bromo-2,5-dichlorophenyl) 0-ethyl ester	5.0 2.5 1.25 .625 .312 .156 .078 .039	100 100 100 100 100 100 88 0	100 100 100 100 100 100 90 0	100 100 100 100 100 100 86 0	100 100 100 100 100 100 84 0	100 100 100 100 100 100 92 0	100 100 100 100 100 100 79 0	100 100 100 100 100 100 75 0		
160	27374	Phosphonothioic acid, ethyl-, 0-(4-bromo-2,5-dichlorophenyl) 0-methyl ester	5.0 2.5 1.25 .625 .312 .156 .078 .039	100 100 100 100 100 100 92 0	100 100 100 100 100 100 95 0	100 100 100 100 100 100 87 0	100 100 100 100 100 100 52 0	100 100 100 100 100 100 62 0	100 100 100 100 100 100 38 0	100 100 100 100 100 100 80 0		

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly				House fly			
				Male Percent	Female Percent	Total insects	Male Percent	Female Percent	Total insects	Total	
161	25869	Phosphonothioic acid, ethyl-, <u>O</u> -(2-chloroethyl) ester, <u>O</u> -ester with <u>p</u> -hydroxybenzonitrile	5.0	100	100	100	100	100	100	100	
			2.5	100	100	100	100	100	100		
			1.25	100	75	89	100	100	100		
			.625	97	75	88	79	30	68		
			.312	0	0	0	81	26	55		
			.156	6	0	3	12	0	6		
162	27513	Phosphonothioic acid, ethyl-, <u>O</u> -ethyl ester, <u>O</u> -ester with <u>p</u> -hydroxybenzaldehyde <u>O</u> -(methylcarbamoyl)oxime	10.0	29	23	27	52	21	44		
163	27375	Phosphonothioic acid, methyl-, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O</u> -isopropyl ester	5.0	100	100	100	90	100	81	100	
			2.5	98	100	95	100	100	100		
			1.25	100	100	100	100	100	100		
			.625	100	100	100	90	100	79		
			.312	100	100	100	39	67	22		
			.156	86	100	72	4	9	0		
164	27453	Phosphonothioic acid, methyl-, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O</u> -propyl ester	.078	5	5	5	3	0	5	100	
			5.0	100	100	100	100	100	100		
			2.5	100	100	100	100	100	100		
			1.25	100	100	100	100	100	100		
			.625	100	100	100	97	40	82		
			.312	100	100	100	76	67	74		
165	27634	Phosphonothioic acid, methyl-, <u>O</u> -[2,5-dichloro-4-(methylthio)phenyl] <u>O</u> -ethyl ester	.156	83	79	81	14	0	8	100	
			.078	17	6	11	0	0	0		
			5.0	100	100	100	100	100	100		
			2.5	100	100	100	100	100	100		
			1.25	100	100	100	100	100	100		
			.625	100	100	100	100	100	100		
			.312	100	100	100	100	92	98		
			.156	100	100	100	100	74	88		
			.078	100	83	93	55	3	25		
			.039	61	68	65	0	0	0		
166	27033	Phosphonothioic acid, methyl-, <u>O</u> -ethyl ester, <u>O</u> -ester with <u>p</u> -hydroxybenzonitrile	.020	0	0	0	0	0	0	100	
			5.0	100	100	100	100	100	100		
			2.5	100	100	100	100	100	100		
			1.25	100	100	100	100	100	100		
			.625	100	100	100	100	100	100		
			.312	100	100	100	100	100	100		
167	27378	Phosphonothioic acid, phenyl-, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O</u> -methyl ester	.156	0	0	0	0	0	0	100	
			5.0	100	100	100	100	100	100		
			2.5	99	100	98	100	100	100		
			1.25	100	100	100	62	84	35		
			.625	0	0	0	0	0	0		
168	27396	Phosphoramidothioic acid, <u>O,S</u> -dimethyl ester	5.0	100	100	100	100	100	100	100	
			2.5	100	100	100	100	100	100		
			1.25	100	100	100	100	96	98		
			.625	89	53	70	93	32	58		
			.312	81	47	64	100	0	58		
			.156	14	9	12	100	26	56		
169	27084	Phosphoramidothioic acid, diethyl-, cyclic <u>O,O</u> -(2,2-dimethyltrimethylene) ester	.078	0	0	0	11	0	6	100	
			5.0	0	0	0	0	0	0		
170	27023	Phosphoramidothioic acid, [ethyl(2-hydroxyethyl)thiocarbamoyl]-, <u>O,O</u> -dimethyl ester	5.0	3	0	2	0	0	0		
171	27034	Phosphoramidothioic acid, [ethyl(2-hydroxypropyl)thiocarbamoyl]-, <u>O,O</u> -dimethyl ester	5.0	3	0	2	0	0	0		

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly			House fly			Total insects	
				Male Percent	Female Percent	Total Percent	Male Percent	Female Percent	Total Percent		
172	27239	Phosphoramidothioic acid, [(2-hydroxyethyl)methylthiocarbamoyl]-, <u>0,0</u> -dimethyl ester	5.0	0	0	0	4	0	0	2	
173	27032	Phosphoramidothioic acid, [(2-hydroxyethyl)propylthiocarbamoyl]-, <u>0,0</u> -dimethyl ester	5.0	3	0	1	0	0	0	0	
174	27035	Phosphoramidothioic acid, [2-hydroxypropyl)methylthiocarbamoyl]-, <u>0,0</u> -dimethyl ester	5.0	3	0	1	0	0	0	0	
175	27019	Phosphoric acid, 1-(2-bromo-4,5-dichlorophenyl)-2-chlorovinyl dimethyl ester	5.0 2.5 1.25 .625 .312	100 100 100 85 14	100 100 100 64 4	100 100 100 75 10	100 100 25 0 72	100 49 0 0 0	100 64 12 0 33		
176	27021	Phosphoric acid, 1-(4-bromo-2,5-dichlorophenyl)-2-chlorovinyl dimethyl ester	5.0 2.5 1.25 .625 .312	100 100 88 75 19	100 100 60 60 7	100 100 73 67 15	100 95 0 0 0	93 24 0 0 6	96 47 0 0 3		
177	27043	Phosphoric acid, 2-bromo-1-(2,4-dichlorophenyl)vinyl dimethyl ester	5.0 2.5 1.25 .625 .312	100 100 100 94 38	100 100 97 97 20	100 100 43 33 28	100 100 50 12 33	100 100 50 12 0	100 100 47 25 12		
178	27500	Phosphoric acid, 6-chlorobicyclo[3.2.0]hepta-2,6-dien-7-yl dimethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 97 75 0	100 100 100 98 46 4	100 100 100 95 62 2	100 100 100 95 17 0	100 100 29 67 0 0	100 100 71 87 12 0		
179	25840	Phosphoric acid, 2-chloro-1-(2,4-dibromophenyl)vinyl dimethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 70 35	100 100 100 100 63 15	100 100 100 100 67 28	100 100 86 46 93 0	100 100 63 9 58 0	100 100 71 29 71 0		
180	24969	Phosphoric acid, 2-chloro-1-(2,4-dichlorophenyl)vinyl diethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 90 13	100 100 100 100 94 12	100 100 100 100 94 13	100 100 100 100 8 0	100 100 100 100 0 5	100 100 100 100 0 9		
181	25818	Phosphoric acid, 2-chloro-1-(2,4-dichlorophenyl)vinyl dimethyl ester	5.0 2.5 1.25 .625 .312 .156 .078	100 100 100 100 100 70 9	100 100 100 100 100 87 11	100 100 100 100 94 81 10	100 100 100 100 67 91 21	100 100 100 100 67 43 6	100 100 100 100 22 72 15		
182	27018	Phosphoric acid, 2-chloro-1-(2,5-dichlorophenyl)vinyl dimethyl ester	5.0 2.5 1.25	100 100 58	100 78 39	100 87 45	0 0 0	0 0 0	0 0 0	0 0 0	
183	25842	Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)vinyl diethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 79 100 86 24	100 100 83 92 71 22	100 100 81 97 78 23	16 26 100 23 87 0	0 0 59 0 10 0	0 0 80 0 48 0	10 14 80 15 48 0	

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill					
			Face fly		House fly			
			Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent
184	25841 Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)vinyl dimethyl ester (Gardona(R))	5.0	100	100	100	0	0	0
		2.5	95	93	94	20	0	11
		1.25	100	96	98	91	7	45
		.625	27	40	32	55	0	27
185	24988 Phosphoric acid, 1,2-dibromo-2,2-dichloroethyl dimethyl ester (Naled)	2/10.0	100	100	100	100	100	100
		1/ 5.0	100	100	100	100	100	100
		1/ 2.5	100	100	100	100	100	100
		1/ 1.25	100	100	100	87	20	66
		1/ .625	100	100	100	100	86	95
186	20738 Phosphoric acid, 2,2-dichloro-vinyl dimethyl ester (dichlorvos)	1/ .312	32	16	24	12	0	6
		5.0	100	100	100	100	100	100
		2.5	89	54	78	0	0	0
		1.25	85	90	86	4	0	3
		.625	76	85	79	10	0	8
		.312	4	18	10	0	6	3
187	27663 Phosphoric acid, 2,2-dichloro-vinyl methyl ester, calcium salt, compound with dichlorvos (1:2)	.156	17	22	20	15	0	4
		5.0	100	100	100	100	100	100
		2.5	100	100	100	100	100	100
		1.25	100	96	98	100	100	100
		.625	100	100	100	7	0	4
188	27626 Phosphoric acid, diethyl ester, ester with o-tolylglyoxylonitrile oxime	.312	0	0	0	0	0	0
		5.0	100	100	100	85	50	72
		2.5	100	100	100	78	37	60
189	27129 Phosphoric acid, dimethyl ester, ester with 3-hydroxy-N-methylcrotonamide, (E)- (monocrotophos)	1.25	23	32	26	14	12	13
		5.0	100	94	97	100	94	97
		2.5	100	100	100	100	91	95
190	27521 Phosphoric acid, dimethyl 3,5,6-trichloro-2-pyridyl ester	1.25	97	83	88	100	83	85
		.625	92	40	55	90	30	47
		.312	16	20	18	68	2	29
		5.0	100	100	100	88	88	88
		2.5	100	94	96	93	69	80
191	27269 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with N-(2-bromo-1-mercaptoproethyl)-phthalimide	1.25	97	95	96	26	0	12
		2.5	97	0	0	9	2	5
		5.0	97	100	99	0	3	2
192	27650 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with 3-(2-chloro-1-mercaptoproethyl)-2-benzoxazolinone	2.5	48	38	44	0	0	0
		5.0	100	98	99	56	22	47
		5.0	100	98	99	56	22	47
193	27320 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with N-(2-chloro-1-mercaptoproethyl)-phthalimide (dialifor)	1.25	79	81	80	0	0	0
		.625	0	0	0	0	0	0
		5.0	100	100	100	97	47	75
		2.5	58	45	51	100	38	71
194	27312 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with N-(2-cyanoethyl)-2-mercaptopropanoic acid	1.25	79	81	80	0	0	0
		.625	0	0	0	0	0	0
		5.0	100	100	100	97	47	75
195	27211 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with dihydro-3-mercaptopropano-2(3H)-furanone	2.5	100	59	76	16	54	64
		1.25	26	0	12	0	0	9
		5.0	100	100	100	94	96	95
196	27707 Phosphorodithioic acid, 0,0-diethyl ester, S-ester with 4-(mercaptopropano-2-methoxy-Δ ² -1,3,4-thiadiazolin-5-one	2.5	100	100	100	100	98	99
		1.25	100	98	98	100	93	94
		.625	86	37	52	87	47	55
		.312	0	0	0	2	0	1

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. No.	Entomology (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly				House fly			
				Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent
197	27295	Phosphorodithioic acid, <u>0,0</u> -diethyl ester, <u>S</u> -ester with 3-(mercaptopethyl)-2,4-thiazolidinedione	5.0 2.5	100 59	100 36	100 48	100 0	75 0	85 0		
198	27070	Phosphorodithioic acid, <u>0,0</u> -diethyl ester, <u>S</u> -ester with mercapto-2-propanone, diethyl mercaptone	5.0 2.5 1.25 .625	100 100 100 10	100 100 33 12	100 100 70 11	100 32 9 0	100 7 0 0	100 20 3 0		
199	27653	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 1-acetyl-3-(mercaptopethyl)-5,5-dimethylhydantoin	5.0	3	6	5	10	0	0	6	
200	27652	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 1-acetyl-3-(mercaptopethyl)-hydantoin	5.0	28	31	30	0	7	2		
201	27268	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -(2-bromo-1-mercptoethyl)-phthalimide	5.0 2.5 1.25	97 95 0	88 72 0	93 84 0	0 5 0	0 0 0	0 0 0	0 2 0	
202	27321	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -(2-chloro-1-mercptoethyl)-phthalimide	5.0	65	36	49	34	0	0	16	
203	27238	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 2-ethoxy-4-(mercaptopethyl)- Δ^2 -1,3,4-thiadiazolin-5-one	5.0 2.5 1.25 .625 .312	100 100 100 100 45	100 100 100 96 46	100 100 100 98 46	100 90 83 53 3	100 78 54 5 0	100 84 72 5 2		
204	23233	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptopethyl)-1,2,3-benzotriazin-4(3H)-one (azinphosmethyl)	5.0 2.5 1.25 .625	100 100 96 48	100 97 79 22	100 97 89 36	10 0 0 0	4 0 0 0	6 0 0 0		
205	27193	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 4-(mercaptopethyl)-2-methoxy- Δ^2 -1,3,4-thiadiazolin-5-one	5.0 2.5 1.25 .625 .312	100 100 100 84 50	100 100 100 76 34	100 97 98 80 41	93 97 40 9 0	71 74 21 0 0	79 84 26 6 0		
206	27615	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptopethyl)-1-methylhydantoin	5.0 2.5	0 0	0 0	0	94 6	33 0	62 3		
207	25872	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with <u>N</u> -(mercaptopethyl)succinimide	5.0 2.5 1/1.25 1/ .625	100 100 100 63	100 100 100 55	100 100 100 59	83 69 18 22	41 50 8 0	59 61 14 14		
208	27296	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptopethyl)-2,4-thiazolidinedione	5.0 2.5	90 4	78 0	83 2	0 5	0 3	0 4		
209	27072	Phosphorodithioic acid, <u>0,0</u> -dimethyl ester, <u>S</u> -ester with mercapto-2-propanone, diethyl mercaptone	5.0 2.5	100 59	100 24	100 43	56 0	8 0	27 0		
210	24650	Phosphorodithioic acid, <u>0,0</u> -dimethyl <u>S</u> -[(methylcarbamoyl)-methyl] ester (dimethoate)	5.0 2.5 1/1.25 1/ .625 1/ .312 1/ .156 1/ .078	100 100 100 98 100 80 40	100 100 100 99 100 44 22	100 100 100 99 100 59 29	100 100 100 100 100 24 3	100 80 100 100 100 16 0	100 85 100 100 100 44 20		
211	27073	Phosphorodithioic acid, <u>0,0</u> -dimethyl <u>S</u> -[(2-methyl-1,3-dithiolan-2-yl)methyl] ester	5.0 2.5	6 0	0 0	3 0	0 0	0 3	0 1		

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly				House fly			
				Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent	Total insects	Total insects
212	27071	Phosphorodithioic acid, <u>O,O</u> -dimethyl <u>S</u> -[(2-methyl-1,3-oxathiolan-2-yl)methyl] ester	5.0 2.5 1.25	100 74 8	81 79 4	90 76 6	36 0 0	0 0 0	24 0 0		
213	27123	Phosphorodithioic acid, <u>S</u> -(4,6-dimethyl-2-pyrimidinyl) <u>O</u> -ethyl <u>O</u> -isopropyl ester	5.0 2.5 <u>1/</u> 1.25 <u>1/</u> .625	100 100 100 59	100 100 100 54	100 100 100 60	100 96 54 50	96 86 44 10	97 92 49 32		
214	27122	Phosphorodithioic acid, <u>S</u> -(4,6-dimethyl-2-pyrimidinyl) <u>O</u> -ethyl <u>O</u> -propyl ester	5.0 2.5 <u>1/</u> 1.25 <u>1/</u> .625 .312	100 100 100 100 31	100 100 100 98 10	100 100 100 99 16	100 90 25 42 13	100 83 5 12 0	100 87 16 28 7		
215	27318	Phosphorodithioic acid, <u>O</u> -ethyl <u>S,S</u> -dipropyl ester (Mocap(R))	5.0 2.5 1.25	93 77 0	100 93 0	96 85 0	100 0 0	95 0 0	98 0 0		
216	25866	Phosphorodithioic acid, <u>O</u> -ethyl <u>O</u> -isopropyl ester, <u>S</u> -ester with <u>N</u> -(mercapto-methyl)phthalimide	10.0 5.0 2.5 1.25 .625 .312 .156 .078	100 100 43 64 80 62 3 9	100 100 50 60 60 33 0 9	100 100 46 62 72 44 2 9	4 0 - 0 0 0 0 0	0 0 - 0 0 0 0 0	2 0 0 0 0 0 0 0		
217	25865	Phosphorodithioic acid, <u>O</u> -ethyl <u>O</u> -methyl ester, <u>S</u> -ester with <u>N</u> -(mercapto-methyl)phthalimide	10.0 5.0 2.5 1.25 .625 .312 .156 .078	100 100 100 100 100 100 96 9	100 100 100 100 100 100 95 9	100 100 100 100 100 100 95 9	100 100 100 100 42 94 80 0	100 100 100 100 32 56 81 0	100 100 100 100 35 72 81 0		
218	25864	Phosphorodithioic acid, <u>O</u> -ethyl <u>O</u> -propyl ester, <u>S</u> -ester with <u>N</u> -(mercaptomethyl)-phthalimide	10.0 5.0 2.5 1.25 .625 .312 .156 .078	100 100 100 100 100 100 85 0	100 100 100 100 100 100 73 0	100 100 100 100 100 100 80 0	100 100 62 100 100 100 4 0	100 100 23 100 100 100 0 0	100 100 100 100 49 91 53 0		
219	27207	Phosphorodithioic acid, <u>S</u> -(hydroxymethyl) <u>O,O</u> -dimethyl ester, acetate	5.0	0	0	0	0	0	0	0	0
220	25867	Phosphorodithioic acid, <u>O</u> -isopropyl <u>O</u> -methyl ester, <u>S</u> -ester with <u>N</u> -(mercapto-methyl)phthalimide	10.0 5.0 2.5 1.25 .625 	100 100 100 100 100 100 100 9	100 100 100 100 100 100 81 0	100 100 100 100 100 100 92 4	96 67 69 16 15 0 0 11	67 7 24 0 0 0 0 0	82 33 48 11 8 0 0 7		
221	25863	Phosphorodithioic acid, <u>O</u> -methyl <u>O</u> -propyl ester, <u>S</u> -ester with <u>N</u> -(mercapto-methyl)phthalimide	10.0 5.0 2.5 1.25 .625 .312	100 100 100 100 57 5	100 100 100 100 47 4	100 100 100 100 52 4	100 100 100 100 88 0	100 100 100 100 70 0	100 100 100 100 82 0		
222	27030	Phosphoro(monothioperoxyoic) acid, <u>SO</u> -(2,4-dinitrophenyl) <u>O</u> , <u>O</u> -diethyl ester	5.0	5	8	6	0	0	0	0	0

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm. ²	24-hour kill									
				Face fly				House fly					
				Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent				
223	27031	Phosphoro(monothioperoxoic) acid, <u>S</u> -(3,5-dinitro- <u>o</u> -tolyl) <u>O,O</u> -diethyl ester	5.0 2.5 1.25 .625	100 100 86 4	100 100 83 3	100 100 85 3	71 73 10 0	45 24 0 0	57 51 7 0				
224	27162	Phosphorothioic acid, <u>O</u> -(4-bromo-2,5-dichlorophenyl) <u>O,O</u> -dimethyl ester (bromophos)	5.0 2.5 1/1.25 1/ .625 .312 .156 .078 .039 .020	100 100 100 100 100 100 80 100 81 11	100 100 100 100 100 100 54 50 75 7	100 100 100 100 100 	100 100 100 100 100 100 60 3 0 0	100 100 100 100 100 	100 100 90 74 5 13 25 11 0 0	100 100 93 86 8 25 6 0 0 0			
225	27607	Phosphorothioic acid, <u>O</u> -(3-bromo-5,7-dimethylpyrazolo-[1,5- α]pyrimidin-2-yl) <u>O,O</u> -diethyl ester	5.0 2.5 1.25	100 93 40	100 58 20	100 72 29	38 8 20	0 0 0	0 0 0	22 6 9			
226	27464	Phosphorothioic acid, <u>O</u> -(7-chloro-4-benzofurazanyl) <u>O,O</u> -isopropyl <u>O</u> -methyl ester	10.0 5.0 3/ 1.25 .625 .312	100 100 100 100 85 24	100 100 100 100 54 7	100 100 100 100 64 14	100 100 100 100 20 2	100 100 100 100 16 0	100 92 100 95 16 0	100 96 100 97 18 1			
227	27608	Phosphorothioic acid, <u>O</u> -(3-chloro-5,7-dimethylpyrazolo-[1,5- α]pyrimidin-2-yl) <u>O,O</u> -diethyl ester	5.0 2.5	100 67	100 38	100 48	36 17	19 0	30 12				
228	27409	Phosphorothioic acid, <u>O</u> -(2,5-dichloro-4-iodophenyl) <u>O,O</u> -diethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 94 5	100 100 100 100 98 4	100 100 100 100 96 5	100 100 96 92 52 0	100 100 92 94 77 0	100 100 100 100 52 0	100 100 100 100 77 0			
229	27408	Phosphorothioic acid, <u>O</u> -(2,5-dichloro-4-iodophenyl) <u>O,O</u> -dimethyl ester	5.0 2.5 1.25 .625 .312 .156	100 88 100 100 100 70	100 86 100 100 100 9	100 87 100 100 100 37	100 100 85 89 17 0	100 100 89 87 0 0	100 90 89 87 0 0	100 94 87 87 6 0			
230	27569	Phosphorothioic acid, <u>O</u> -(2,5-dichloro-4-iodophenyl) <u>O</u> -ethyl <u>O</u> -methyl ester	5.0 2.5 1.25 .625 1/ .312 .156	100 100 100 96 42 28	100 100 100 82 19 0	100 100 100 87 30 11	100 100 100 88 30 10	100 100 100 88 84 10	100 100 100 87 31 6	100 90 87 87 31 8	100 94 90 90 60 8		
231	27635	Phosphorothioic acid, <u>O</u> -[2,5-dichloro-4-(methylthio)phenyl] <u>O,O</u> -diethyl ester	5.0 2.5 1.25 .625 .312 .156 .078	100 100 100 100 100 100 48	100 100 100 100 100 100 52	100 100 100 100 100 100 50	100 100 100 97 97 96 72	100 100 100 100 100 93 72	100 100 100 100 100 93 7	100 100 100 100 100 93 42	100 100 100 100 100 98 42		
232	27698	Phosphorothioic acid, <u>O</u> -[2-(diethylamino)-6-methyl-4-pyrimidinyl] <u>O,O</u> -diethyl ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 97 37	100 100 100 100 80 10	100 100 100 100 88 23	100 100 100 100 88 21	100 100 100 100 93 6	100 100 100 100 93 3	81 97 89 80 2 4	87 98 90 82 13 4		

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. No. (ENT-)	Entomology Material	Residue Mg. per 929 cm. ²	24-hour kill					
			Face fly			House fly		
			Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent
233	27699	Phosphorothioic acid, <u>0</u> -[2-(diethylamino)-6-methyl-4-pyrimidinyl] <u>0</u> , <u>0</u> -dimethyl ester	5.0	100	100	100	98	99
			2.5	100	100	100	100	100
			1.25	100	100	100	93	94
			.625	100	100	91	95	94
			.312	100	100	80	31	56
			.156	97	95	84	18	56
			.078	93	68	53	8	33
234	27449	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with (<u>o</u> -chlorophenyl)glyoxylo nitrile oxime (chlorphoxim)	5.0	100	100	100	100	100
			2.5	100	100	91	82	88
			1.25	100	100	93	86	89
			.625	100	100	70	24	50
			.312	100	97	44	5	27
			.156	67	30	0	0	0
			.078	0	0	0	0	0
235	27485	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with (2,6-dichlorophenyl)glyoxylo nitrile oxime, α -isomer	10.0	100	100	40	0	11
			5.0	100	95	44	40	44
			2.5	100	100	0	0	0
			1.25	88	27	22	0	9
			.625	48	43	0	0	0
236	27469	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with (2,6-dichlorophenyl)glyoxylo nitrile oxime, β -isomer	10.0	100	100	100	100	100
			5.0	100	100	100	100	100
			2.5	100	100	100	100	100
			1.25	100	100	96	88	91
			.625	100	100	18	0	5
			1/ .312	18	18	18	6	1
237	27333	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>S</u> -ester with dihydro-3-mercaptopro-2(3H)-furanone	5.0	35	34	35	5	12
								0
238	27543	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with 4'-hydroxyacetophenone <u>0</u> - (butylcarbamoyl)oxime	10.0	100	100	95	90	94
			5.0	61	54	57	7	9
			2.5	52	65	60	0	0
			1.25	55	24	36	3	2
239	27542	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with 4'-hydroxyacetophenone <u>0</u> - (methylcarbamoyl)oxime	10.0	100	100	95	82	91
			5.0	96	94	95	90	88
			2.5	92	52	74	8	6
			1.25	0	0	0	0	0
240	27507	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with p-hydroxybenzaldehyde <u>0</u> - (allylcarbamoyl)oxime	5.0	0	4	2	0	0
								0
								0
241	27508	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with p-hydroxybenzaldehyde <u>0</u> - (butylcarbamoyl)oxime	5.0	100	95	97	11	25
			2.5	100	91	95	68	29
			1.25	12	6	10	0	0
242	27506	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with p-hydroxybenzaldehyde <u>0</u> - (methylcarbamoyl)oxime	5.0	0	0	0	0	0
								0
243	27144	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with 3-hydroxycoumarin	5.0	100	100	100	100	100
			2.5	100	100	97	88	92
			1/ 1.25	100	100	50	46	48
			1/ .625	100	100	80	52	67
			.312	100	95	6	3	4
			.156	26	17	41	0 *	15
244	27544	Phosphorothioic acid, <u>0</u> , <u>0</u> -diethyl ester, <u>0</u> -ester with 4'-hydroxy-2'-methylacetophenone oxime N-acetate	5.0	82	72	73	9	4
			2.5	12	10	11	10	5

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology	Material	Residue Mg. per 929 cm. ²	24-hour kill							
				Face fly				House fly			
				Male Percent	Female Percent	Total insects Percent	Total Percent	Male Percent	Female Percent	Total insects Percent	Total Percent
245	27448	Phosphorothioic acid, <u>O,O</u> -diethyl ester, <u>O</u> -ester with phenylglyoxylonitrile oxime (phoxim)	5.0	100	100	100	100	100	100	100	100
			2.5	100	100	100	100	100	100	100	100
			1.25	100	100	100	100	100	82	87	
			.625	100	100	100	79	71	76		
			.312	100	100	100	88	48	69		
			.156	100	100	100	15	3	10		
			.078	20	26	24	0	0	0	0	
246	19507	Phosphorothioic acid, <u>O,O</u> -diethyl <u>O</u> -(2-isopropyl-6-methyl-4-pyrimidinyl) ester (diazinon)	2/10.0	100	100	100	100	100	100	100	100
			1/ 5.0	100	100	100	100	100	100	100	100
			1/ 2.5	100	100	100	100	100	100	100	100
			1/ 1.25	94	100	98	80	54	62		
			1/ .625	100	100	100	48	31	40		
			1/ .312	92	91	92	0	0	0	0	
			1/ .156	47	42	44	8	0	0	6	
247	27311	Phosphorothioic acid, <u>O,O</u> -diethyl <u>O</u> -(3,5,6-trichloro-2-pyridyl) ester (Dursban ^(R))	5.0	100	100	100	100	100	100	100	100
			2.5	100	100	100	100	100	100	100	100
			1.25	100	100	100	100	100	100	100	100
			.625	100	100	100	100	92	96		
			.312	100	100	100	100	93	97		
			.156	100	93	96	3	0	2		
			.078	90	65	81	0	3	1		
248	27465	Phosphorothioic acid, <u>O,O</u> -dimethyl ester, <u>O</u> -ester with <u>N</u> -benzyl-4-hydroxypthalimide	10.0	100	100	100	95	45	69		
			5.0	100	100	100	100	92	96		
			2.5	100	100	100	100	100	100	100	100
			1.25	100	100	100	95	85	89		
			.625	94	68	82	95	54	72		
			1/ .312	80	76	78	92	48	71		
			.156	100	73	86	70	6	31		
249	27230	Phosphorothioic acid, <u>O,O</u> -dimethyl ester, <u>O</u> -ester with 4-hydroxy- <u>m</u> -anisonitrile	.078	0	0	0	0	0	0	0	
			5.0	97	100	93	0	0	0	0	
			2.5	100	100	100	4	8	0	0	
			1.25	67	96	49	3	5	0	0	
			.625	69	75	58	5	8	3		
250	27618	Phosphorothioic acid, <u>O,O</u> -dimethyl ester, <u>S</u> -ester with 3-(mercaptomethyl)-1-methylhydantoin	.312	4	2	6	0	0	0	0	
			5.0	60	83	76	50	0	0	35	
			2.5	33	33	33	7	0	0	5	
251	25540	Phosphorothioic acid, <u>O,O</u> -dimethyl <u>O</u> -[4-(methylthio)- <u>m</u> -tolyl] ester (fenthion)	5.0	100	100	100	100	82	91		
			2.5	100	96	98	100	94	97		
			1.25	54	24	40	50	0	30		
			.625	85	34	58	12	0	7		
			.312	29	4	14	12	0	4		
252	25715	Phosphorothioic acid, <u>O,O</u> -dimethyl <u>O</u> -(4-nitro- <u>m</u> -tolyl) ester (BAY-41831)	5.0	100	100	100	100	100	100	100	100
			2.5	100	100	100	100	81	85		
			1.25	100	100	100	100	95	98		
			.625	100	81	91	43	7	30		
			.312	100	88	94	80	40	55		
			.156	77	27	54	4	2	3		
			.078	72	33	54	0	0	0		
253	27491	Phosphorothioic acid, <u>O</u> -(5,6-dimethyl-2-pyrazinyl) <u>O,O</u> -dimethyl ester	.039	0	0	0	0	0	0	0	
			5.0	100	100	100	100	100	100	100	100
			2.5	100	100	100	100	100	100	100	100
			1.25	100	100	100	92	64	82		
			.625	100	94	97	18	0	16		
			.312	64	74	68	50	0	23		
			.156	71	81	76	9	0	5		
254	23284	Phosphorothioic acid, <u>O,O</u> -dimethyl <u>O</u> -(2,4,5-trichlorophenyl) ester (ronnel)	.078	9	2	4	0	0	0	0	
			2/10.0	100	100	100	100	100	100	100	100
			1/ 5.0	100	100	100	100	100	100	100	100
			1/ 2.5	100	100	100	100	100	100	100	100
			1/ 1.25	100	100	100	78	56	67		
			1/ .625	97	96	96	90	58	80		
255	23284	Phosphorothioic acid, <u>O,O</u> -dimethyl <u>O</u> -(2,4,5-trichlorophenyl) ester (ronnel)	1/ .312	100	90	94	19	8	13		
			1/ .156	30	22	26	13	0	6		

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No. (ENT-)	Entomology No.	Material	24-hour kill								
			Face fly				House fly				
			Residue Mg. per 929 cm. ²	Male Percent	Female Percent	Total insects Percent	Male Percent	Female Percent	Total insects Percent		
255	27248	Phosphorothioic acid, 0-isopropyl 0-methyl 0-(<i>p</i> -nitrophenyl) ester	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 100 32	100 100 100 100 100 23	100 100 100 100 100 22	100 100 100 96 91 21	100 100 88 81 71 0	100 100 95 88 82 10		
256	27326	Phosphorothioic acid, 0-[3-(isopropylthio)-4-nitrophenyl] 0,0-dimethyl ester	5.0 2.5 1.25	100 100 12	100 98 2	100 99 6	20 12 0	0 0 0	3 4 0		
257	27501	Phthalazine, compound with bromine (1:1)	5.0	12	0	6	0	0	0	0	
258	27502	Phthalazine, 1,4-dichloro-, compound with bromine (1:1)	5.0	5	0	2	0	0	0	0	
259	27505	Phthalazine, 1,4-diiodo-	5.0	5	3	4	4	8	6		
260	27503	1-Phthalazinecarbonitrile	5.0	7	0	5	0	0	0	0	
261	27504	1,4-Phthalazinedicarbonitrile	5.0	11	4	8	0	4	2		
262	27541	4-Pipecoline, 1-decyl-	5.0	0	0	0	0	0	0	0	
263	27529	Piperidine, 1-decyl-	5.0	0	0	0	0	0	0	0	
264	27533	Piperidine, 1-(5,5,7,7-tetramethyl-2-octenyl)-	5.0	6	0	2	3	0	2		
265	28344	Piperonal, bis[2-(2-butoxyethoxy)ethyl] acetal	5.0	0	2	1	1	3	2		
266	27232	Propane, 1,1,2,2,3-penta-chloro-1,3,3-trifluoro-	5.0	0	0	0	0	0	0	0	
267	27231	Propane, 1,2,2,3-tetra-chloro-1,1,3,3-tetrafluoro	5.0	7	3	5	4	0	2		
268	27528	Pyridine, 2-(2-methoxyethoxy)-	5.0	0	0	0	0	0	0	0	
269	27516	Pyrocatechol, cyclic sulfite	5.0	0	0	0	0	0	0	0	
270	33432	Pyrrolidine, 3-hexadecyl-2-methyl-, <i>cis</i> -	5.0	0	0	0	0	0	0	0	
271	27658	Salicylic acid, isopropyl ester, 0-ester with 0-ethyl phosphoramidothioate	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 100 26	100 100 100 100 100 16	100 100 100 100 100 21	100 100 100 95 100 50	100 100 100 28 65 3	100 100 100 52 86 21		
272	27659	Salicylic acid, isopropyl ester, 0-ester with 0-methyl phosphoramidothioate	5.0 2.5 1.25 .625 .312 .156	100 100 100 100 100 47	100 100 100 100 100 27	100 100 100 100 100 38	100 100 100 100 100 0	100 100 100 100 100 0	100 100 100 100 100 0		
273	19442-X	Stobane, a mixture of terpene polychlorinates containing about 65 percent chlorine (Stobane(R))	2/10.0 1/ 5.0	72 28	70 20	71 25	89 13	56 7	74 11		
274	27476	Succinic acid, mercapto-, bis[(methylthio)methyl] ester, S-ester with 0,0-diethyl phosphorodithioate	10.0 5.0 2.5 1.25	100 100 100 67	100 100 100 10	100 100 100 46	100 100 67 6	100 100 32 0	100 100 40 2		
275	27009	Succinic acid, mercapto-, diethyl ester, S-ester with 0-ethyl ethylphosphonodi-thioate	5.0 2.5 1.25 .625	100 100 96 33	100 100 81 17	100 100 88 25	100 100 45 0	82 89 0 0	93 96 22 0		

See footnotes at end of table.

Table 1.--Comparative effectiveness of materials evaluated as insecticide residues against face flies and DDT-resistant house flies. Single test at each dosage level--Continued

Item No.	Entomology No. (ENT-)	Material	Residue Mg. per 929 cm ²	24-hour kill							
				Face fly				House fly			
				Total Male Percent	Total Female Percent	Total Insects Percent	Total Male Percent	Total Female Percent	Total Insects Percent		
276	27534	Sulfurous acid, diphenyl ester	5.0	7	3	5	4	0	3		
277	26662-X	Tetradecanamide, N,N-dimethyl-(95 percent), mixture with related amides (5 percent)	5.0	0	0	0	0	0	0		
278	27523	1,2,7-Thiadiazepine, hexahydro-2,4,4,5,5,7-hexamethyl-, 1-oxide	5.0	0	0	0	0	0	0		
279	27525	Thiocyanic acid, 2-methyl-1-naphthyl ester	5.0	0	0	0	0	0	0		
280	27024	Thioperoxymonophosphoric acid, O,O-diethyl SO-[2-(ethylthio)-ethyl] ester	5.0	0	14	8	0	0	0		
281	33253	Thiophene-3-ol, tetrahydro-, carbanilate, 1,1-dioxide	5.0	0	0	0	0	0	0		
<u>Number of tests</u>			STANDARDS								
10	17034	S-[1,2-bis(ethoxycarbaryl)ethyl] O,O-dimethyl phosphorodithioate (malathion)	10	98.2	100	99.4	89.6	77.0	82.5		
30			5	99.6	98.3	98.8	77.6	47.5	61.8		
25			2.5	88.8	82.3	85.5	44.9	12.5	27.6		
27			1.25	56.6	52.2	54.3	20.1	7.1	15.2		
25			.625	13.2	6.8	10.0	4.6	1.3	2.2		
19			.312	2.1	1.7	1.8	1.0	.5	.6		
15			.156	3.1	1.0	2.2	1.4	1.6	1.2		
10			.078	0	0	0	.8	0	.4		
8			.039	1.2	1.6	1.7	.4	.4	.4		
3			.020	.7	.7	.7	2.3	0	0	1.3	
			.010	0	0	0	0	0	0		
<u>Number of tests</u>			STANDARDS								
15	1506	1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane (DDT)	10	98.6	94.0	96.0	24.1	13.9	23.4		
40			5	99.2	91.3	97.6	28.7	16.4	23.0		
40			2.5	82.1	58.4	69.3	22.9	9.7	14.7		
37			1.25	50.7	33.5	41.8	11.0	6.3	8.2		
32			.625	24.4	8.5	15.6	6.7	2.7	4.6		
19			.312	15.2	7.4	11.8	1.5	1.2	1.4		
17			.156	2.5	.6	1.9	1.4	.5	.9		
12			.078	1.0	.6	.8	.7	.5	.6		
9			.039	3.1	3.2	3.1	2.0	0	.7		
4			.020	.5	.5	.5	2.5	1.0	1.7		
			.010	0	4.0	2.0	0	0	0		

1/ Average 2 tests.

2/ Average 3 tests.

3/ Average 4 tests.

4/ Mobam(R) gave erratic results varying from no kill to 100 percent. Unpublished data indicate that aged residues of Mobam(R) in acetone may be more effective than a fresh residue.

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